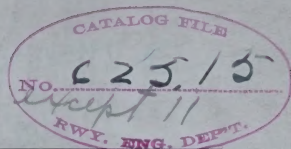


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VOL. II.

NOVEMBER 15, 1908

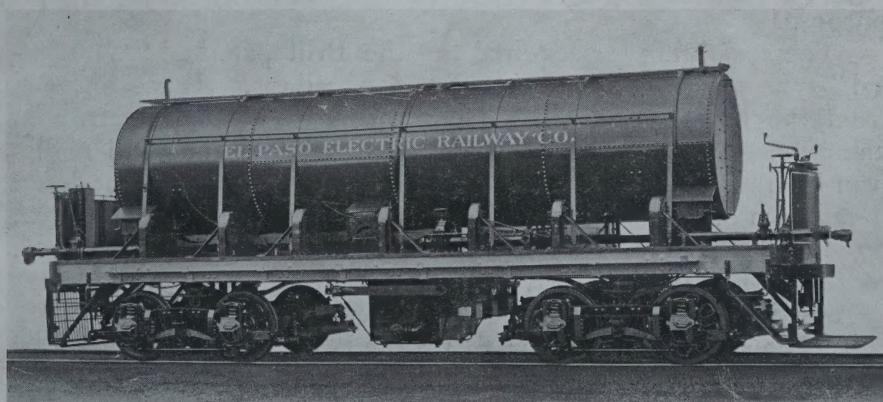
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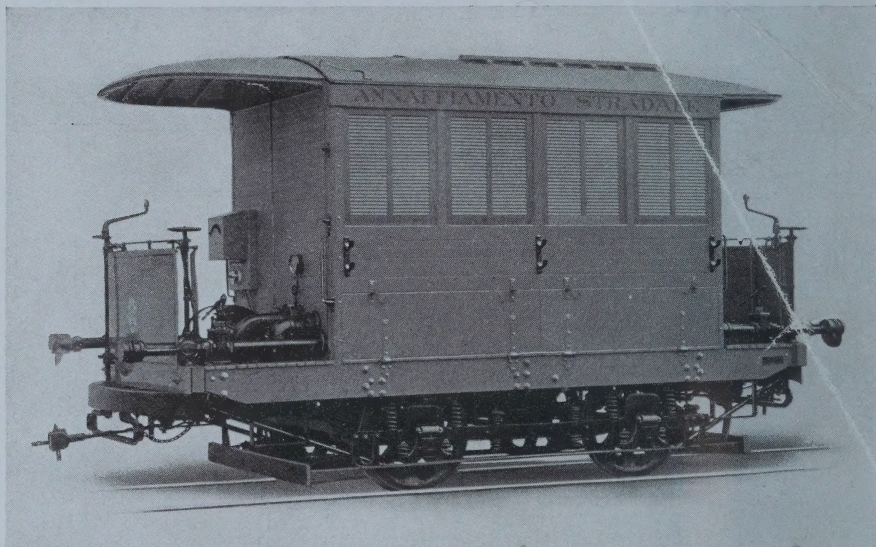
Street Sprinkling a Source of Revenue for Electric Railways

In the August, 1907, number of *Brill's Magazine* some account was presented of the experience of the Grand Rapids Railway Company in sprinkling the city streets along the lines. The company, under a three-year contract, sprinkles for their full width all the streets over which cars operate and is paid on a mileage basis for each sprinkling. All streets are sprinkled twice daily at least and oftener when the city authorities direct.

The El Paso Electric Railway, which is under the management of Stone & Webster, has recently made arrangements to perform a similar service along its lines in El Paso, Texas, but upon a different basis. Through the charter of the railway, the city can compel the railway company to sprinkle between its tracks over the entire system lying inside the city



STREET SPRINKLING A SOURCE OF REVENUE — Brill 4000-Gallon Patented Centrifugal Sprinkler for El Paso, Texas

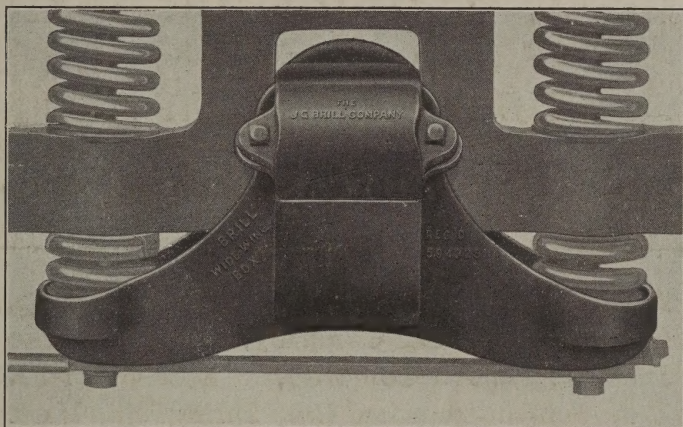


STREET SPRINKLING A SOURCE OF REVENUE — Brill Single Truck Patented Centrifugal Sprinkler with Enclosed Tank — The One Shown was Shipped to Florence, Italy, Last Month

limits. This provision was the basis of the arrangement whereby the El Paso Electric Railway Company agreed to sprinkle not only between its tracks but on both sides on certain streets in consideration of the city furnishing water free of charge and bearing part of the cost of a sprinkler of a type suitable for the purpose.

The sprinkling car acquired was the Brill patented "Centrifugal" type with a tank capacity of 4,000 gallons. It was shipped from the plant at Philadelphia recently. The car is shown in an accompanying engraving, and is 31' long over the Brill angle-iron bumpers, the tank being 5'4" in diameter and 24' feet long. The width of the car is 7'3 $\frac{1}{4}$ " and it is mounted on Brill No. 27-GE2 trucks with a wheel base of 4'6". There are four 40 h.p. motors. The pump is driven by an independent motor.

As is indicated by the name of the sprinkler, a centrifugal pump is used to expel the water or to fill the tank where it is necessary to do so by suction. For this purpose a four-inch centrifugal pump is used. It is driven by a motor of 20 h.p. The pump and motor are of sufficient capacity to throw water 50 feet on each



THE LAST WORD IN BRILL No. 21-E TRUCK IMPROVEMENTS

This Wide Wing Journal Box does for the Brill No. 21-E single truck (see advertisement inside of front cover) what a long wheel base and long spring centers do for a high speed truck. It increases its stability, improves its riding qualities and brings all vertical strains in the side frames into straight lines because the weight-bearing sets of coil springs are directly underneath each other. The action of the semi-elliptics, at the ends of the truck, is amplified because the leverage of the truck-ends is reduced below that in the older type of journal box, in which the lower coil springs were only $12\frac{1}{2}$ in. apart— $7\frac{1}{2}$ in. less than with this box. It lengthens its own life, as well as that of the entire truck and gives smooth-riding cars that encourage the riding habit.

THE J. G. BRILL COMPANY
PHILADELPHIA, PENNSYLVANIA

THE J. G. BRILL COMPANY

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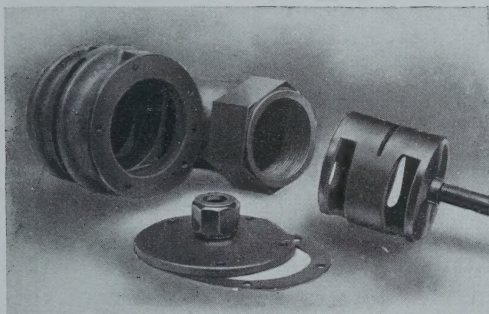
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Write the new address on the envelope in which this Magazine is received and return the envelope to the Publicity Department, The J. G. Brill Company

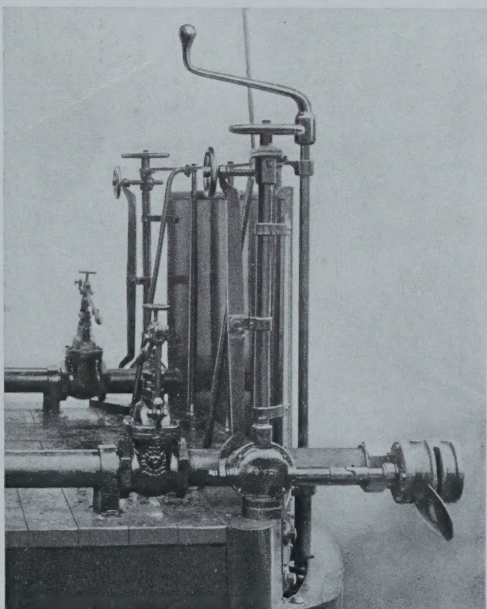
side of the car or to raise water vertically 20 feet by suction and take it from a distance if necessary. Both motor and pump are enclosed in a box suspended from the underframe between the trucks and occupying comparatively little space.



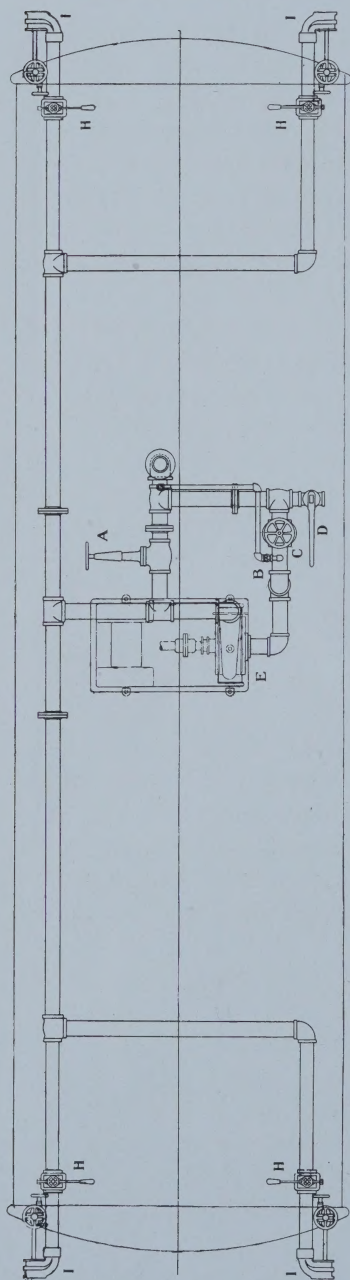
STREET SPRINKLING A SOURCE OF REVENUE — Patented Sprinkler Head of Brill Centrifugal Sprinkler

One of the features of the Centrifugal Sprinkler which has been a noticeable factor in its success is the simple arrangement of piping and all operating parts. The four sprinkling heads are cylindrical in shape, each with a vertical slot opening for half its circumference and with an in-

terior cylinder provided with a corresponding opening. Handles conveniently placed on the platform control the range and amount of water by regulating the relative positions of the two slots. The construction of the patented sprinkling head is such that the water may be cut down to the thinnest film, closed off entirely and directed upon any part of the roadway from a point midway between the rails to the curb which may be fifty feet distant from the rail. At street crossings or in emergencies when it is not convenient or desirable to change the adjustment of the sprinkler heads, the water may be cut off instantly by gate valves



STREET SPRINKLING A SOURCE OF REVENUE — Platform of Sprinkling Car Showing Position of Operating Parts



STREET SPRINKLING A SOURCE OF REVENUE — Piping Plan of Brill Double Truck Centrifugal Sprinkler

which are provided for each of the sprinkling heads. Cutting off the flow of water entirely by this method or by the cylinder controllers does not necessitate attention to the pump or pump motor, as a spring pressure valve in the discharge pipe near the pump opens automatically when the sprinkling heads are closed and thus prevents back pressure. The spring pressure valve and a valve in the suction pipe are the only valves in the main piping system aside from the gate valves, though there is a small valve in the pipe line which is used for priming the pump. The balance of the piping system is correspondingly simple. There is a single opening in the tank and connection is made with the sprinkling heads in a direct manner.

A plan of the piping is presented herewith and for convenience the parts have been lettered. When filling the tank by pressure through the stop-cock D, the valve A in the pump discharge line and the valve B in the priming line are closed and valve C in the delivery line opened. When filling by suction, water is taken through an opening not shown in the plan which is located in the position designated by E, the valves A and B are opened and valve C closed. The gate valves and sprinkling heads are designated respectively by the letters H and I. The spring valve in the discharge line is the valve designated by the letter A.

The first "Centrifugal" sprinkler was built about three years ago, but since its introduction sales have been made in large numbers and to electric railways both in this country and abroad. The centrifugal sprinklers in service have completely demonstrated their superiority over other types of power sprinklers and have proved entirely satisfactory. Their use in El Paso and Grand Rapids is of particular interest because the experience of the electric railways in those cities indicates a new source of revenue for electric railways throughout the country.

Based on the experience at Grand Rapids, it appears that the cost to the railway company of sprinkling the streets is not less than 20 cents per car mile. This is without consideration of the saving in equipment through the reduction in dust and that riding is more pleasant for passengers because the dust raised not only by cars but by automobiles and other vehicles is entirely done away with. However, from the standpoint alone of the cost of operating, 20 cents per car mile covers all expense except the cost of the water, which should be furnished by the city.

The *Municipal Journal and Engineer* furnishes the following figures of the cost of sprinkling streets by the usual methods in vogue in this country. These figures were collected two or three years ago, but it is hardly probable that prices have changed considerably, as the methods and appliances used for ordinary street sprinkling have undergone little if any change. On the other hand, there has been an increase in the cost of labor.

The costs of sprinkling by horse and wagon methods, for a few leading cities on different occasions are as follows, and unless otherwise stated the cost covers two sprinklings per day for a season of eight months.

St. Louis, Mo. (season of $8\frac{1}{2}$ months, no charge for water)
\$.0353 to \$.0213 per front foot.

Newark, N. J., \$.01 per lineal foot per week.

Cincinnati, Ohio, \$.02 per lineal foot per month.

Milwaukee, Wis. (labor only) \$.015 per front foot per season.

Boston, Mass. (contract) \$575 per mile per season.

 " " (day labor) \$424 per mile per season.

 " " (contract, fresh water) \$460 per mile.

 " " (contract, salt water) \$630 per mile.

Oakland, Cal., \$4.00 per day for an average of nine miles.

St. Paul, Minn. (season of 8 months) \$.04 per lineal foot.
St. Paul, Minn. (one sprinkling) \$.1795 per 100 feet per week.
Indianapolis, Ind., (3 sprinklings, six months, \$.06 to \$.1025 per front foot.
Rochester, \$350 per mile per season.
“ \$246.54 per mile per season.

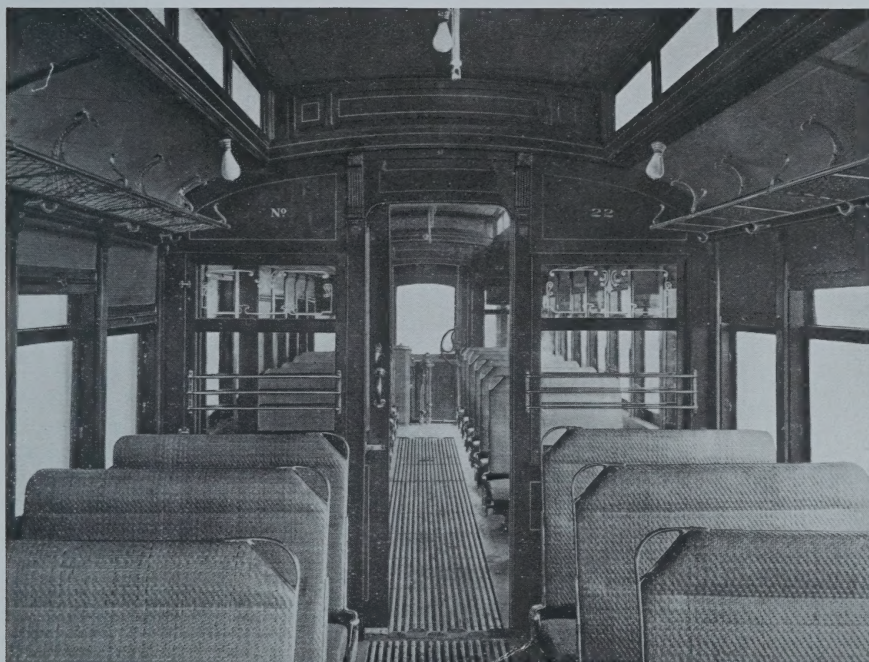
In order that these figures may be more readily comparable with the cost of sprinkling street by the centrifugal sprinkler as used in Grand Rapids and El Paso, they have been reduced to a common basis as follows:

Per mile per sprinkling		Per mile per sprinkling	
St. Louis	\$.73 to \$.44	Milwaukee (labor only)	.33
Newark	3.77	Oakland	.44
Cincinnati	1.76	St. Paul (\$.64 per foot)	.44
Boston (contract)	1.19	“ (.1795 per week)	.67
“ (day labor)	.88	Indianapolis	1.65
“ (fresh water)	.95	Rochester	.73
“ (salt water)	1.31	“	.51

The figures seem to indicate that in most cities of the United States it would be possible for the electric railway company to sprinkle the city streets along its lines on a basis which would reduce the cost of the sprinkling service to the city and be a source of net revenue to the railway company. If there have been further instances, or if the city streets are sprinkled by electric railways on any other commercial basis, the editors of *Brill’s Magazine* will be glad to have complete information regarding them. We shall also be pleased to receive information or inquiries regarding other points on the street sprinkling proposition and hope to be able to consider the matter further in a later number.

Brill Trucks Receive the Grand Prix at
Marseilles, France

The J. G. Brill Company has been awarded the Grand Prix for its system of trucks at the International Exposition of the Application of Electricity at Marseilles, France. The representation in the department of electric traction at the exposition was especially strong and the award accordingly comes as an unusually effective testimony to the superior qualities of the Brill trucks in both design and manufacture.



INTERURBAN CARS FOR WALLA WALLA — Interior View from Smoking Compartment

Interurban Cars for Walla Walla, Washington

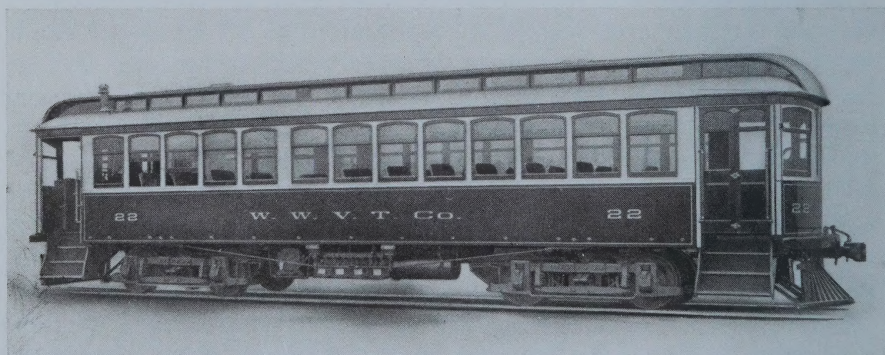
The American Car Company recently delivered two large Brill interurban cars to the Walla Walla Valley Traction Company. The cars, which are mounted on Brill No. 27-E1 trucks, were shipped on their own wheels from the plant at St. Louis to Walla Walla, Washington, a distance of over 2,000 miles, and though the route between these points is quite circuitous, necessitating frequent switching, the cars arrived at destination within thirteen days after shipment and in first-class condition in every respect. No special preparations or changes in the regular equipment were made, aside from the removal of the pilots from both ends, and the No. 27-E1 trucks throughout the trip again demonstrated their perfect adaptability to steam and electric railway conditions.

The cars are identical and are each 46' long over vestibules. The total length of the car body is 36', of which 14' $\frac{3}{4}$ " is a smoking compartment. Over side sills and sheathing the width is

8'9 $\frac{1}{4}$ ". The height from under side of sills over trolley board is 10'2"; from track to under side of sills, 37 3/16"; from floor to ceiling, 8'4 $\frac{5}{8}$ ". Six-inch I-beam center sills are employed, 4" x 6 $\frac{1}{4}$ " yellow pine intermediate sills and 5" x 7 $\frac{3}{4}$ " side sills, with 8" x 5 $\frac{5}{8}$ " inside sill plates. The balance of the framing is correspondingly substantial, the side posts being 3" thick and spaced 2'7 $\frac{1}{2}$ " centers; the corner posts are 3 $\frac{3}{4}$ " thick and the end sills 5 $\frac{1}{4}$ " x 6" in size.

The interior finish is golden oak and the seats Brill "Winner," upholstered in rattan, with a head roll. The seats are 36' long, and the aisle 23" wide. The seating capacity is 52 persons. As the cars are double-enders, they are equipped with full vestibules and control apparatus at both ends and vestibule steps on both sides. The lowest vestibule step is 13 7/16" above the track and the height of the risers is 10 $\frac{1}{2}$ ".

Walla Walla is located in the heart of one of the most fertile and productive farming regions of Washington, and a large proportion of the business of the Walla Walla Valley Traction Company is freight traffic. There is a growing passenger business, however, and we are indebted to Mr. R. Kaye, advertising manager of the company, for the following information regarding the passenger service: "Three city cars are operated, two of which go around a loop track, which is four miles in length, and which touches the principal streets both in the residential and commercial centers of Walla Walla. These cars run on a 15-minute schedule. The third runs between Walla Walla and East Walla Walla, on a



Interurban Car for Walla Walla, Washington



CARS FOR WALLA WALLA — Main Street, Walla Walla, Where All Cars Meet, and Two of the Brill Semi-Convertible Cars Used for City Service

half-hourly schedule. This car has its terminal at Second and Main streets, the junction where all cars meet. The East Walla Walla line is a new one, and has been in operation about two months. For city use, three 25'4" Brill patented semi-convertible motor cars are employed, with bodies mounted on Brill No. 27-G1 trucks. We are just completing a line from the Fair Grounds to Prospect Heights, which is about a mile and three-quarters in length.

"On the interurban line we run an hourly schedule between Walla Walla, Milton and Freewater. There is a park at the Walla Walla River Station, which is about six miles out and which is the only place of amusement on the line. We run a half-hour schedule in the evenings and Sunday afternoons. The interurban line is 15 miles in length. On this line we use two 31'8" Brill

patented semi-convertible combination passenger and baggage motor cars mounted on Brill patented No. 27-G1 trucks, two 12-seat open trail cars mounted on similar trucks, and the two new big 36' closed vestibule combination passenger and smoking motor cars mounted on Brill patented No. 27-E1 trucks."

Two regular freight trains are run daily. The first leaves Walla Walla at 7.45 A. M. and the second at 1.40 P. M. There are frequent sidings along the line, which vary in capacity from two to ten cars, and the company has track connection and a traffic arrangement with the Northern Pacific. Recently during the berry season the Northern Pacific Railroad ran an express car over the line of the traction company.

The fruit products of the region are a large source of freight traffic. Much of the land is irrigated, and apples, cherries, prunes and peaches are raised in profusion, as well as the smaller fruits and canteloupe and watermelon. The events of the year which give rise to extra passenger traffic are Strawberry Day and Peach Day at Freewater, Ore. On these days, which come at the height of the respective fruit seasons, the fruit is served in quantities to all who may come and without charge.

Convertible Cars for the Hanover & McSherrystown Street Railway

The Hanover & McSherrystown Street Railway Company operates a line 11 miles long in Southern Pennsylvania. Originally the line extended from Hanover to McSherrystown, as indicated by the corporate title of the company, but recently the line was extended from McSherrystown, through Brushtown to Littlestown $5\frac{1}{2}$ miles, and, to care for the additional passenger traffic which is being developed, a number of Brill convertible cars have just been acquired.

These cars, which are shown in accompanying engravings, will enable the company to give the widest possible range of service at all times and consequently will have maximum earning power. In summer there are many pleasure-seeking passengers to whom, when converted, the open cars will appeal, and in winter the cars will give the same efficient service which is to be had with semi-



CONVERTIBLE CARS FOR THE HANOVER & MCSHERRYSTOWN STREET RAILWAY — Double Truck Car with Smoking Compartment. Mounted on Brill No. 27-GE1 Trucks

convertible or closed cars. Both in summer and winter, passengers will be assured of complete protection from the elements, as both



CONVERTIBLE CARS FOR THE HANOVER & MCSHERRYSTOWN — Interior of Double Truck Car

window sash and the flexible metal panels slide into the roof pockets and the cars may be opened or closed at any time and as frequently as desired.

Of the cars in the present order, one of the types is mounted on single truck, is 20'7" long over end panels and has a seating capacity of 28 passengers. The length over the platform crown pieces is 30'; the type of truck used is the Brill No. 21-E, with a wheel base of 7'6" and with 34" steel wheels. The other principal dimensions are as follows: Width over sills, 7'2 $\frac{1}{4}$ "; width over posts at belt, 8'; sweep of posts, 5"; centers of posts, 2'7"; size of end sills, 4 $\frac{1}{4}$ "x7". The seats, which are of the Brill "Winner" type, with cane covering, are 34" long; the aisle is 20 $\frac{1}{2}$ " wide.

The other type is mounted on Brill No. 27-GE1 trucks and is 30'11" long over end panels; the length over platform crown pieces is 40'4". A bulkhead near the middle provides a compartment for smokers with a seating capacity of 20 persons; the total seating capacity is 44 persons. Another distinction is the "Narragansett" sill step, which gives the same height step at the side as at the platforms. The width over sills and panels is 8'2 $\frac{1}{4}$ "; over posts at belt, 8'6 $\frac{1}{4}$ ". The post centers are spaced 2'7" and the sweep of posts is 1 $\frac{3}{4}$ ". The length of the seats is 36" and the aisle is 22" wide.



CONVERTIBLE CARS FOR THE HANOVER & McSHERRYSTOWN STREET RAILWAY — Single Truck Car
Mounted on Brill No. 21-E Trucks



CONVERTIBLE CARS FOR THE HANOVER & MCSHERRYSTOWN STREET RAILWAY—Interior of Single Truck Car

In addition to the Brill cane covered "Winner" seats the cars are provided with Brill ratchet brake handles, angle-iron bumpers, "Dedenda" gongs, "Retriever" signal bells and mutually-operating sliding doors.

The Littlestown extension of the Hanover & McSherrystown Street Railway on which the cars will operate is a single track line with 60-lb. rails laid on oak and chestnut ties and is ballasted throughout with hard magnesia limestone quarried along the line and distributed by two special 12-ton single-truck motor cars built in the company's shops. The country traversed is of a rolling nature and as a farming section is unsurpassed in the State. The grades are exceptionally light for an electric line, there being only one grade of 2 per cent, the balance 1 per cent and under. Two miles out of McSherrystown the line crosses Conewago Creek on a four-span I-beam girder bridge with concrete abutment and piers.



CONVERTIBLE CARS FOR THE HANOVER & MCSHERRYSTOWN STREET RAILWAY—A Section of the Road, Which is Located in Southern Pennsylvania — The Heaviest Cut and Fill are at This Point

Fortunately, at this point there is a 30-acre grove, which has been made into a park and is largely patronized during the summer for picnics, boating and bathing.

The overhead work consists of a bracket line with 35' chestnut poles planted 5½' in the ground and coated at the butts with a preservative compound. On all the small fills 40' poles were used in order to get down to solid ground. The brackets are the standard 9' pipe type, with galvanized bell-top hangers and 15" clinch ears. The trolley wire is 2/0 hard drawn copper, and the feeder wire 500,000 c. m. and 4/0. On account of the easy 2-degree curves, of which there are only five, there is not a pull off on the trolley wire at any of the curves.

The original line of the road extended from the southern part of Hanover through the residential and business section to the western limits and the industrial section, and from here, one block

back of the pike between Hanover and McSherrystown, to McSherrystown along North street. This line was put down in 1893, and the rolling stock consisted of two 16' Brill closed bodies on Brill trucks, which are still serviceable and still used as extras. Four years ago the line was extended from its southern terminus in Hanover, along the pike leading to Baltimore, three-quarters of a mile and a park established. This park is on a high point overlooking Hanover, the Pigeon Hills beyond and the Blue Ridge Mountains in the distance. The usual attractions are included, such as dancing pavilion, roller skating rink, merry-go-round, restaurant, baseball field and small Midway. The park is well patronized from both Hanover and McSherrystown, and a unique feature is the annual Merchants' Picnic in August. On this day the stores are closed and the whole community for miles around are the guests of the Merchants' Association of Hanover, which provides a special attraction and amusing forms of entertainment.



CONVERTIBLE CARS FOR THE HANOVER & MCSHERRYSTOWN STREET RAILWAY — The Station and Bridge at Witmer Park, a 30-Acre Grove

Two years ago a crosstown line, approximately two miles in length, was built from the southern borough limits of Hanover to the square of a village called Pennville, and from here to the northern borough limits.

The car storage facilities consist of a brick barn 150 feet long, with three tracks. Adjoining this, with arch doors between, is the repair shop, 17' x 150', and well equipped with the necessary machine tools and forge room. A new storage barn is now being erected, which is 200 feet long, entirely of brick, with three tracks and cement pits and floor. Power is furnished by the Hanover Light, Heat and Power Company, an allied company, the railway capacity being 400 kilowatts.

The Advantages of Substantial Car Construction

Brill cars have always been noted for their good design and construction, and the policy of the company in turning out equipment which is more than adequate to the demands upon it has been a material factor in the company's success. Roads which have once bought Brill cars usually buy Brill equipment, when they are in the market for additional rolling stock, because they are convinced by experience that it is thoroughly dependable in character.



ADVANTAGES OF SUBSTANTIAL CAR CONSTRUCTION — A Brill Car Which Broke a Telegraph Pole in Three Pieces — None of the Passengers was Injured



ADVANTAGES OF SUBSTANTIAL CAR CONSTRUCTION — A Brill Semi-Convertible Car Built By the American Car Company, Which Went Through a Fence and Down a Twenty-five Foot Embankment Without Damage, Except Broken Vestibule Glass

Two accidents have recently occurred which have demonstrated the good construction of Brill cars and its value in accidents. One of the wrecks was caused by the car jumping the track at a curve and crashing into a telegraph pole. The pole was broken into three pieces, but the car was only slightly damaged and none was injured. From the accompanying engraving, which shows the car after the accident, it may be seen that aside from the comparatively slight damage to the roof and letter panel, which are not constructed to withstand severe blows, the car was not badly battered, and the damage to the body of the car, which probably received the principal force of the impact, was limited to scratches and bruises.

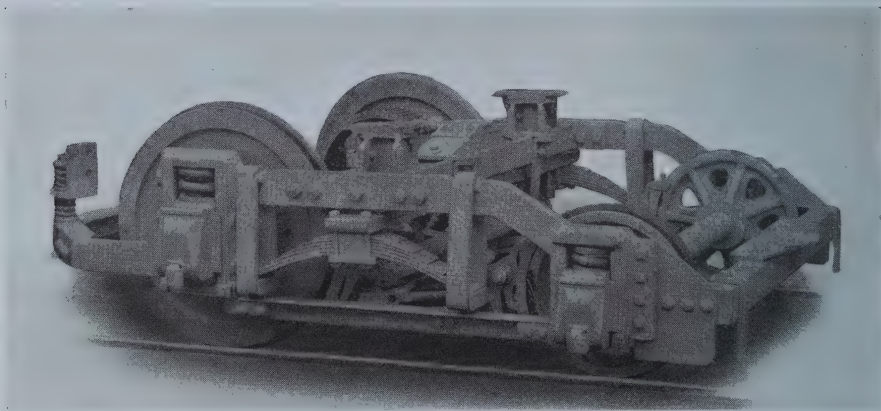
Another photograph shows a car built by the American Car Company which jumped the track, crashed through a fence and down a 25-foot embankment. There were a number of passengers in the car, but none was injured and the repairs to the car after the accident were limited to the replacement of broken vesti-

bule glass. These are but two instances of recent date which have demonstrated to the officials of the Brill Company that the care exercised in the design and construction of Brill cars is worth while and of value to the users of the equipment.

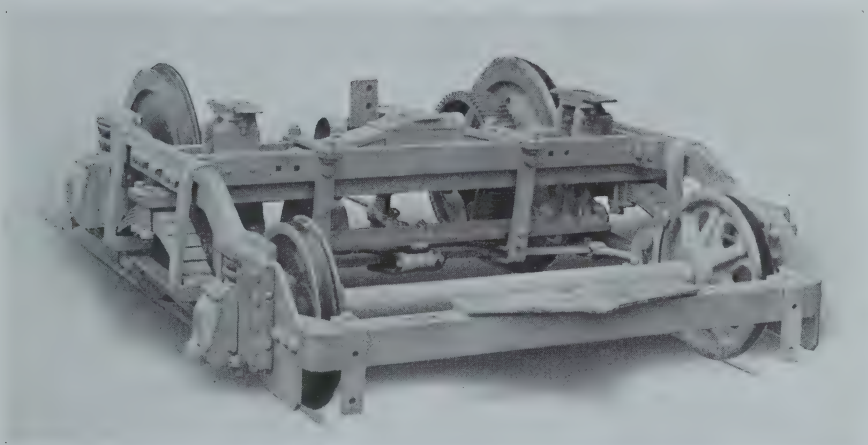
Brill Maximum Traction Truck No. 39-E

At the Atlantic City conventions The J. G. Brill Company exhibited its new Maximum Traction truck, of which 150 are being built for the Metropolitan Street Railway, New York, and 300 for the Third Avenue Railroad, New York, for use under its new Pay-as-You-Enter cars. The truck, which has been designated as No. 39-E, is a somewhat radical departure from previous designs of maximum traction trucks, yet the favorable features at once commend it and in service it has already demonstrated its superior qualities.

Like all the standard types of Brill trucks, the No. 39-E has solid forged side frames, but it differs from the "Eureka" Maximum Traction truck in that it has a bolster and a center bearing. The bolster is supported on semi-elliptic springs which extend lengthwise of the truck and rest in links suspended from the side frames. The links, which have shown in other types of Brill trucks ability to cushion the side swing on curves, are utilized in the same effective manner in this instance.



Brill Maximum Traction Truck No. 39-E



BRILL MAXIMUM TRUCK No. 39-E — By Locating the V-Plate of the Compression Device on the Truck Frame the Weight on the Pony Wheels is Not Only Increased on Curves but the Wheel on the Outer Rail Receives More Weight than the Wheel on the Inside

It is particularly to be noted that the No. 39-E truck is designed for the position of the pony wheels to be reversed from that which is the general practice in maximum traction trucks. By this arrangement several advantages are gained. Notably the trucks may be placed nearer the ends of the car without interfering with the platform clearances or increasing the height of the car body above the rails; and a center pressure differential brake may be used which while maintaining the ratio of brake pressure to load upon large and small wheels, equally divides the brake pressure on both sides of the truck on curves as well as on tangent.

The distribution of the weight of the car body is the same in the No. 39-E truck as in the "Eureka" Maximum Traction truck — namely, 75 per cent on the large wheels and 25 per cent on the pony wheels. The compression device, used to increase the weight upon the pony wheels on curves in order to preclude any possibility of derailment, instead of being placed upon the truck, as in the case with the "Eureka" truck, is suspended from the car body for the No. 39-E truck. The design of the device is the same as with the "Eureka" truck, however. A spring post depresses a V-plate on the truck frame near the axle of the pony wheels when the truck takes a curve, thereby increasing the load on the pony wheels for a time.

A study of derailments shows that the first wheel of a truck to leave the rails is always the leading wheel on the outside rail. In this connection it is to be noted that with the V-plate upon the truck frame, and the spring post suspended from the car body, at the time the pressure is increased upon the pony wheels on curves by the change in relative positions of truck and car body the proportion of weight is unequally divided between the two pony wheels and the greater proportion of weight is placed upon the wheel which is on the outer rail, thus establishing a further safeguard against derailments.

Brill Types of Fare Boxes

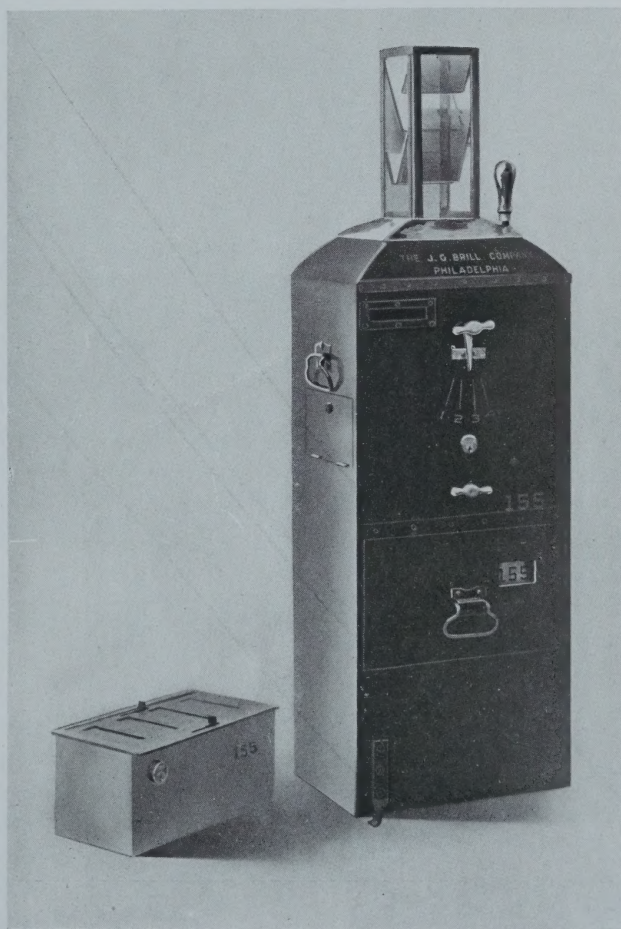
To meet the demand for satisfactory fare boxes The J. G. Brill Company has developed three types of boxes which appear to meet all the requirements of modern systems of fare collection. In all of these fare boxes the principle is employed of relieving the conductor or fare collector of the responsibility and temptation in handling money and making the payment of fares in effect a direct transaction between each passenger and the treasurer.

An examination of the engraving on the accompanying page will serve to make clear the following description of the method of fare collection with all of the fare boxes. In the opening, which is amply large to enable free movement, the passenger drops his fare, which may be a coin or a ticket. It falls upon the inclined planes of heavy glass and against the glass sides of the upper portion, turning over as it falls and finally resting upon a metal table. Here it can be closely inspected through the glass, but it cannot be removed, because of the position of the glass tumbling planes above. Then by the operation of the handle or lever it is dropped directly into a strong cash box in the body of the fare box and from that time until it reaches the treasurer's office is under lock and key.

The first box shown is Fare Box No. 2 and is a four-compartment box; that is, the cash box contains four compartments for keeping the fares of four conductors separate without removing the fare box or emptying it. When first placed in operation the arrow on the side of the box (shown in the illustration) points to 1, indicating that the money is directed into the first compartment of the fare box. When the first conductor finishes his run it is the

usual practice for him to drop into the box a slip containing his number, the number of the fare box and, where a fare register is used, the register number. When the second conductor comes on duty he pushes a small plunger which allows the arrow to pass to the position indicated by the figure 2 on the side of the box, and all fares collected by him are directed into the second compartment. The process is repeated in each case until all four compartments have been used or the cash box is removed from the fare box.

To open the fare box, after placing the key in the lock, it is first necessary to pull the handle, which clears the table above of all coins or tickets. As soon as the key is turned, the handle below is turned and the two operations jointly lock the cash box, release the drawer which contains it and set the indicator on the side of the box at No. 1. Another cash box may then be immediately inserted. The cash box which has just been removed is sent to the treasurer's office, where it is unlocked.



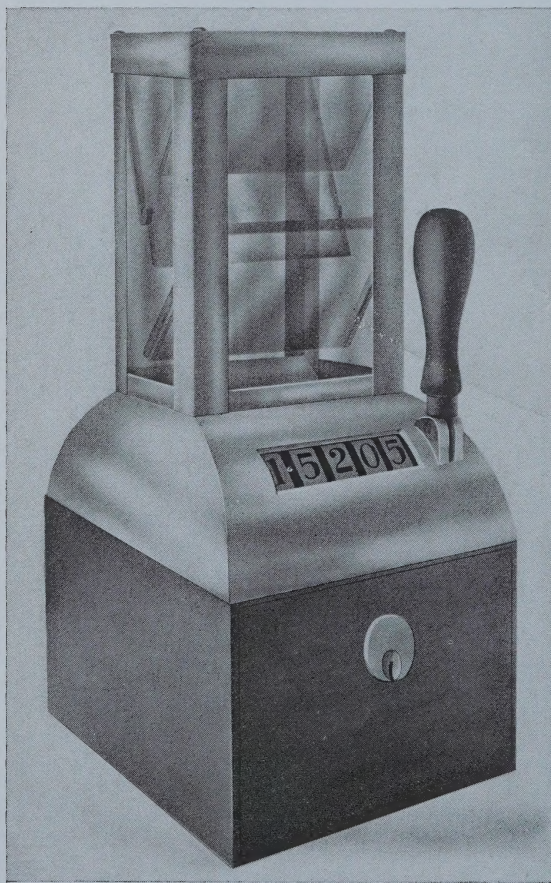
Brill Fare Box No. 2

To place the fare box in operation all that is necessary is to place a cash box, ready to receive fares, in the drawer, and push the drawer completely in, which locks the drawer. However, the drawer must first contain the cash box, which must be in condition to receive the fares; i. e., the lid openings must be open.

The three types of fare boxes which are manufactured are the one just described, No. 2, which is made to embody a fare register when desired; one which is the same in design and operation but contains a single compartment cash box, and also a fare register if

desired, and a third, which is entirely of metal and glass, and is illustrated herewith. In the second or single compartment box the compartment indicating mechanism is, eliminated. But otherwise the two boxes are similar. The single compartment box is 8" x 12 1/4" at the base and stands 40" high. The four-compartment box is 9 1/2" x 14" x 43 1/2".

The third box is very compact, being 9 1/4" x 6 1/2" at the base and but 14" high, and may or may not include the fare register which is shown in the illustration. The cash box has a single compartment, which will hold \$140 in mixed change, \$80 in dimes or \$40 in nickels.



Brill Fare Box No. 3A

The United States Sales Force of the Brill Companies

The representation of The J. G. Brill Company at the Atlantic City conventions last month was one of the largest of the Manufacturers' Association and undoubtedly the largest of the various car building companies. Advantage was taken of the opportunity to have a group picture taken in front of the Greek

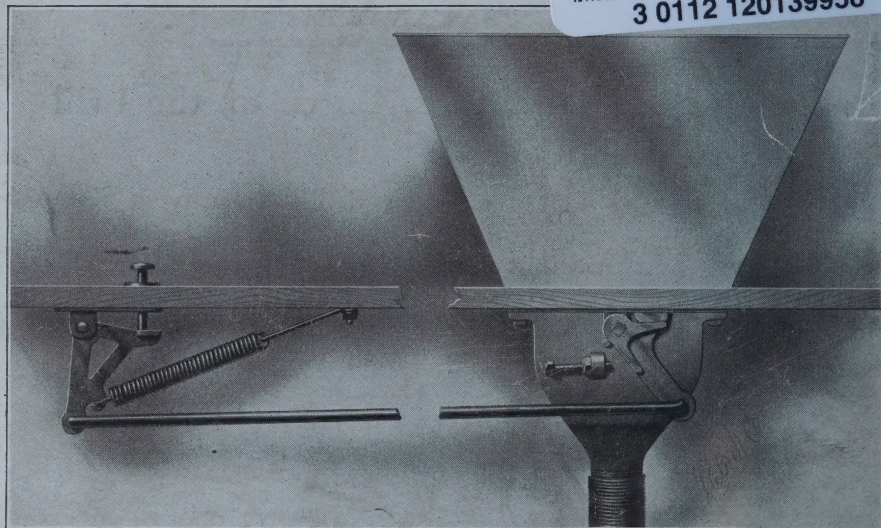


THE UNITED STATES SALES FORCE OF THE BRILL COMPANIES AT THE ATLANTIC CITY CONVENTIONS —
From Left to Right the Individuals are S. T. Bole, George H. Tontrup, E. B. Bronenkamp,
W. H. Heulings, Jr., General Manager of Sales; F. W. Brill, B. O. Brill, F. L. Markham,
J. E. Brill, H. A. Heulings, A. N. Hargrove and A. S. Vane

Temple, where the convention sessions were held. The picture, which is reproduced herewith, shows all but three of the members of the sales force of Brill companies. Messrs. D. B. Dean, of the G. C. Kuhlman Car Company, and G. M. Haskell, of The J. G. Brill Company, were missing when the photograph was taken, and Mr. O. L. Williams has since joined the sales force. Mr. Williams will represent The J. G. Brill Company on the Pacific Coast and will have his headquarters at the offices of Pierson, Roeding & Co., Monadnock Block, San Francisco.



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Brill "Dumpit" Sand Box

(Patented)

It occupies comparatively little space, keeps the sand dry and gives a continuous flow.

THE J. G. BRILL COMPANY

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St. Louis, Mo.

JOHN STEPHENSON COMPANY
Elizabeth, N. J.

G. C. KUHLMAN CAR COMPANY
Cleveland, Ohio

WASON MANUFACTURING CO.
Springfield, Mass.

DANVILLE CAR COMPANY
Danville, Ill.

COMPAGNIE J. G. BRILL

14 Place de Laborde, Paris

Cable Address: "BOGIBRIL," Paris

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Via Principi D'Acaja, 10
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C. DUBBELMAN
45 Rue de la Caserne
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